Installation and Operating Instructions Combi Gauges for Rail Cars Models Rg…Fz, RChg…Fz, DRg…Fz, DRChg…Fz

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1. General Information

Used symbols:

Caution of a danger

Advice

The pressure gauges for rail cars are manufactured in accordance with norms EN 837-1 and DIN 38030.
They are applied for rail cars, as well as for other vehicles with pneumatic brake systems.
Further information on the instruments can be found in data sheets 1901 and 5901.

Please read these operating instructions carefully before putting into operation.

Inteded use

Applications that are not listed explicitly as intended are contrary to normal use!

ARMATURENBAU GmbH and MANOTHERM Beierfeld GmbH do not assume liability for damage that arises from misuse of the instrument, respectively from not regarding the information contained in these operating instructions.

2. Safety Information

Please observe the valid instructions regarding the safety at work and the prevention of accidents, as well as the country-specific installation standards when installing, putting into operation and operating.

The instruments may only be installed by qualified persons that are acquainted with these operating instructions, valid standards regarding safety at work and the prevention of accidents.

When disregarding the corresponding instructions, injuries and/or damage to property may occur.

Contains the following safety equipment:
- Blow-out device in the back
- Restrictor screw in the pressure inlet port
- Laminated safety glass
- Earth connection 6.3×0.8 for voltages >42V

This safety equipment is for the protection of the operator against flying parts in the case of average, of defects of the instrument or occurring overpressure.
This safety equipment must not be removed!
Modification or other technical changings of the instrument executed by the customer are not accepted. Otherwise you will lose your warranty.

Mounting and dismounting may only be executed in depressurised and dead-voltage condition. For supply voltages of 42V and above the earth connection has to be connected necessarily.

3. Description, Application

Combi gauges for rail cars were especially developed for the application in pneumatic brake systems. Models Rg…Fz and RChg…Fz are provided with a measuring system for the indication of the operating pressure.
Models DRg…Fz and DRChg…Fz are provided with 2 independently working measuring systems. The gauges are equipped with u-clamps for panel mounting and as combi gauge including direct and indirect lighting.
Depending on the supplied specification a version only as directly or indirectly lighted gauge is also possible.
An easily readable instrument read-out is granted due to the coating of the window.
The pressure connection is cconnected to the connection piece/s according to EN 8434-1 (DIN2353) with 24°-cone.
Cutting ring and union nut are available as accessories for a pipe connection.

The restrictor screw in the pressure inlet port must not be removed as safety equipment.

A voltage of 24V is required for the direct lighting.

The direct lighting is optionally also available for voltages between 24V and 110V. In this case an earth connection 6.3×0.8 is mounted to the case, to protect the operator. This earth connection has to be connected obligatorily. Light bulbs and LED-lamps can be ordered separately.
The indirect lighting is being realised by light apertures in the case, which transfer the central lighting of the control panel onto the gauge. The light apertures are covered by a light guide ring in the case that realises an optimal lighting of the dial, as well as it is an protection against dust and intervention.

4. Technical Data

Application in closed rooms
Construction type: rm
Mounting: panel-mounting with u-clamps
protection type of the panel IP54
Required connection: pressure and operating voltage

Ambient temperature: -40…+60°C (-40…+140 °F)

Special version: -50…+60°C (-58…+140 °F)

ARMATURENBAU GmbH
Manometerstraße 5 • D-46487 Wesel - Ginderich
Tel.: +49 (0) 28 03 / 91 30–0 • Fax: +49 (0) 28 03 / 10 35
armaturenbau.com • mail@armaturenbau.com

MANOTHERM Beierfeld GmbH
Am Gewerbepark 9 • D-08344 Grünhain-Beierfeld
Tel.: +49 (0) 37 74 / 58–0 • Fax: +49 (0) 37 74 / 58–545
manotherm.com • mail@manotherm.com

NCS	Case diameter [mm]/[inches]	Panel cut out diameter [mm]/[inches]	Process connection
60 (2.36“)	59 (2.32“)	61 (2.4“) ± 0.5	L6
80 (3“)	79 (3.11“)	81 (3.18“) ± 0.5	L10
100 (4“)	99 (3.9“)	102 (4.02) + 1	L10

Supplementary available components:
- Cutting ring and union nut suitable for L6 and L10
- Bulb fitting BA9
- Light bulb BA9s 24V 2W
- LED-lamp BA9 24-32V
- LED-lighting 110V (use only for instruments with earth connection)

5. Installation

Storage and Transport
- Accepted storage temperature: -40...+70°C(-40…+158 °F)
- The gauges have to be protected against mechanical damage during transport and storage. Leave the gauge in the original packaging for storage up to installation.
- The packaging can be disposed as waste paper. For further- or return transport the gauge has to be protected sufficiently against damage.

Mounting

The mounting and putting into operation may only be executed by qualified persons that are authorised by the operating company.

Please check following aspects before mounting:
- Have the goods been delivered completely and without any damage?
- Do the goods correspond to the shipping documents?
- Is this the suitable instrument for the case of application?
- Does the process connection correspond to the requirements?
- Does the position of calibration of the gauge correspond to the falling gradient of the control panel?
- Does the installed lighting correspond to the on-board voltage?
- Is an earth connection existent for voltages >42V?

Mounting at the control panel
- Remove the bracket/s by loosening the thin- resp. the wing nut
- Insertion into the panel
- attach the bracket/s, mount and tighten the thin- resp. wing nut(s)
- tighten the thin nut(s) with a combination wrench (SW22) by a further rotation

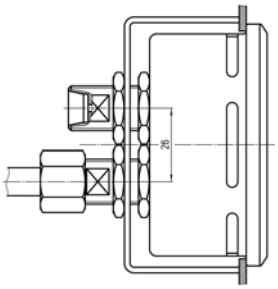
The thin nuts at the case must not be removed They also must not be used for holding up when screwing the bracket/clamp.

The measuring system in the gauge could be damaged and with this the indication could be falsified.

The pressure connections are manufactured according to DIN EN ISO 8434-1. Its mounting as hose connection or tube connection (pre-assembled connecting piece) is described in detail in DIN 3859-2.

Pressure connection for tube/pipe connection:
- Put the union nut/s onto the right-angular burred pipe end/s
- Put the cutting ring/s with the cutting edge onto the pipe end/s
- Screw in the tube connection/s at the connection/s manually
- Tighten the union nut/s by 1.5 rotations while holding a second combination wrench against the pressure gauge connecting piece (SW8 for L6 or SW 13 for L10)

Pressure connection with pre-assembled connecting piece (e.g. for hose connection):
- Put the hose end onto the pressure gauge connection/s and tighten it hand-tight
- Tighten the union nut/s by a further 0.25 rotation while holding a second combination wrench against the pressure gauge connecting piece (SW8 for L6 or SW 13 for L10)



The belonging of the pressure connection to the pointer is marked with a marking in pointer-colour at the connection.
It is necessary:
- upper pressure connection - pointer in the back
- lower pressure connection - pointer in the front

Do not exert force when connecting the pressure gauge. Hold up the spanner flat of the pressure connection.

Installation of the power supply for direct lighting:
- Put the earthing with blade receptacle onto the earth connection (if existing)
- Put the power supply with two blade receptacles 6.3×0.8 onto the fitting (polarity does not have to be regarded - reverse polarity protected)

The connected lighting can be pulled out of the gauge with its bulb fitting for lighting tests.

6. Operation

A secure operation is granted if the instrument has been connected accordingly.
If the calibrated postion of installation deviates from the angle of inclination, measuring errors could occur.
A separate switching-on of the bulb/LED-lamp is not required.
The application temperatures correspond to the storage temperatures. If temperatures deviate more than 20°C, increased inaccuracies could occur.

7. Maintenance, Repair

Our pressure gauges are maintenance-free.
To grant the measuring accuracy we recommend a regular examination of the gauge. For this the gauge has to be disconnected from the process.
Cleaning can be done when cleaning the control panel.
There are no special requirements regarding the cleaning.

Repairs may only be executed by the manufacturer.

8. Decommissioning

To put the instrument out of operation please remove the gauge completely from the field of application. For this the operating instructions have to be followed in reversed order.

Dismounting of the pressure gauge may only be executed with a depressurised connection.

9. Disposal

Please help protecting the environment and dispose the used materials according to the valid regulations, resp. recycle them.

Technical changes and errors excepted.

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ARMATURENBAU GmbH
Manometerstraße 5 • D-46487 Wesel - Ginderich
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armaturenbau.com • mail@armaturenbau.com

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Am Gewerbepark 9 • D-08344 Grünhain-Beierfeld
Tel.: +49 (0) 37 74 / 58–0 • Fax: +49 (0) 37 74 / 58–545
manotherm.com • mail@manotherm.com

EG-Konformitätserklärung

EC-Declaration of Conformity

nach DIN EN ISO / IEC 17 050-1

according to DIN EN ISO / IEC 17 050-1

Für die nachfolgend bezeichneten Erzeugnisse

KOMBI-MANOMETER FÜR SCHIENENFAHRZEUGE MIT EINEM MESSSYSTEM

Typen Rg...Fz / RChg...Fz 1901

wird hiermit bestätigt, dass sie den folgenden Normen entsprechen,

DIN 38 030:2009-02
EN 837-1

Sie werden gemäß den Bestimmungen folgender Richtlinie gefertigt

97/23/EG (Druckgeräte-Richtlinie)

Mit Messbereichen größer 0/200 bar fallen sie ihrer Art nach unter "druckhaltende Ausrüstungsteile" und werden folgendem Konformitätsbewertungsverfahren unterzogen:

Modul A1
"Interne Fertigungskontrolle mit Überwachung der Abnahme"

Benannte Stelle: DNV GL
Veritasveien 1
N-1322 Høvik
Nummer der benannten Stelle: 0575

Die CE-Kennzeichnung erfolgt mittels Aufkleber auf dem Gehäuse.

Diese Erklärung wird verantwortlich für den Hersteller

We hereby declare for the following named goods

COMBI GAUGES FOR RAIL CARS WITH ONE MEASURING UNIT

Typen Rg...Fz / RChg...Fz 1901

that they meet the following standards

DIN 38 030:2009-02
EN 837-1

They are produced following the requirements of the directive

97/23/EC (Pressure Equipment Directive)

Pressure gauges with ranges of 0/200 bar and up are part of "Pressure Accessories" and has been subjected to the following conformity assessment process:ds regarding their electromagnetic compatibility:

Module A1
"Internal Production Control with Surveillance of Final Assessment"

Notified body: DNV GL
Veritasveien 1
N-1322 Høvik
Number of the notified body: 0575

The CE-marking is made with a sticker on the case.

This declaration is responsibly given for the manufacturer

ARMATURENBAU GmbH

abgegeben durch / *by*

Bernd Vetter

Geschäftsführer / *Managing Director*

WESEL 2015-07-07

(Ort / *Location*) (Datum / *Date*)

(rechtsgültige Unterschrift / *Legal signature*)

Geschäftsf. Gesellschafter:
Bernd Vetter
Sitz der Gesellschaft: Wesel
Handelsregister: Duisburg HRB 10547

Manometerstraße 5
D – 46487 Wesel-Ginderich
Telefon: +49 2803 9130 – 0
Telefax: +49 2803 1035

E-Mail: mail@armaturenbau.com
Internet: www.armaturenbau.de
www.armaturenbau.com

EG-Konformitätserklärung

EC-Declaration of Conformity

nach DIN EN ISO / IEC 17 050-1

according to DIN EN ISO / IEC 17 050-1

Für die nachfolgend bezeichneten Erzeugnisse

KOMBI-MANOMETER FÜR SCHIENENFAHRZEUGE MIT ZWEI MESSSYSTEMEN

Typen DRg...Fz / DRChg...Fz 5901

wird hiermit bestätigt, dass sie den folgenden Normen entsprechen,

DIN 38 030:2009-02
EN 837-1

Sie werden gemäß den Bestimmungen folgender Richtlinie gefertigt

97/23/EG (Druckgeräte-Richtlinie)

Mit Messbereichen größer 0/200 bar fallen sie ihrer Art nach unter "druckhaltende Ausrüstungsteile" und werden folgendem Konformitätsbewertungsverfahren unterzogen:

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"Interne Fertigungskontrolle mit Überwachung der Abnahme"

Benannte Stelle: DNV GL
Veritasveien 1
N-1322 Høvik
Nummer der benannten Stelle: 0575

Die CE-Kennzeichnung erfolgt mittels Aufkleber auf dem Gehäuse.

Diese Erklärung wird verantwortlich für den Hersteller

We hereby declare for the following named goods

COMBI GAUGES FOR RAIL CARS WITH TWO MEASURING UNITS

Typen DRg...Fz / DRChg...Fz 5901

that they meet the following standards

DIN 38 030:2009-02
EN 837-1

They are produced following the requirements of the directive

97/23/EC (Pressure Equipment Directive)

Pressure gauges with ranges of 0/200 bar and up are part of "Pressure Accessories" and has been subjected to the following conformity assessment process:ds regarding their electromagnetic compatibility:

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